



Revelation and Science

Vol. 07, No. 01 (1438H/2017) 32-41

Healing with Sound: Exploring Possible Applications of *Qur'anic* Recitation in Cell Culture

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Abstract

There are evidences of research done in relation to sound healing in dealing with various health problems. Brain, auditory cells and other cells in the human body have been shown to react to sound. The use of *Qur'anic* recitation for therapeutic purposes can be traced back to the times of Prophet Muhammad (s. a. w.). Listening to the *Qur'anic* recitation can have therapeutic effects even on individuals who do not understand the meaning of the verses. However, there is little to suggest the effect of *Qur'anic* recitation on cell cultures. The Scopus database was examined for scientific writings that involve the effect of sound, with higher emphasis on "Healing with *Qur'anic* recitation". The positive effects of sound identified from the literatures support future studies to examine the effects of *Qur'anic* recitation on cell cultures. However, this paper adopted a cautious approach to associating *Qur'anic* recitation to sound healing.

Keyword: *The Qur'an; Qur'anic Recitation; Sound Healing; Cell Culture*

Abstrak

Terdapat bukti penyelidikan yang dilakukan berhubung dengan penyembuhan bunyi dalam menangani pelbagai masalah kesihatan. Otak, sel pendengaran dan sel-sel lain dalam tubuh manusia mempunyai tindak balas terhadap bunyi. Penggunaan pembacaan al-Qur'an untuk tujuan terapeutik telah digunakan semasa zaman Nabi Muhammad (s.a.w). Memperdengarkan pembacaan al-Qur'an boleh memberi kesan terapeutik walaupun pada individu yang tidak memahami makna ayat-ayat tersebut. Walau bagaimanapun, hanya segelintir memberi cadangan terhadap kesan pembacaan al-Qur'an terhadap sel kultur. Pangkalan data Scopus telah diteliti bagi pencarian kajian saintifik yang melibatkan kesan bunyi, dengan penekanan lebih tinggi pada "Penyembuhan dengan pembacaan al-Qur'an". Kesan positif bunyi yang dikenal pasti dari literatur menyokong kajian masa depan untuk mengkaji kesan pembacaan al-Qur'an terhadap sel kultur. Walau bagaimanapun, kajian ini mengamalkan pendekatan waspada untuk mengaitkan pembacaan al-Qur'an terhadap penyembuhan kesan bunyi.

Kata kunci: *Qur'an, Pembacaan Qur'an, Penyembuhan Kesan Bunyi, Sel Kultur*

1. Introduction

Sound can be defined as a mechanical wave that will cause agitation in a medium when it passes through it (Dos Reis Lestard, Valente, Lopes, & Capella, 2013). It is a form of energy that can be explained as a

compression of a waveform at a certain frequency (Kamal, Mahmood, & Zakaria, 2013) or a repeated pressure wave that travels through air or materials (Sarvaiya & Kothari, 2015). According to Dos Reis Lestard et al. (2013) sound can be divided into three groups which are infrasound (below 20 Hz), audible sound (20 Hz – 20,000 Hz) and ultrasound (above 20 kHz). The use of ultrasound in the field of medicine has been well known in detecting, locating and characterising medical anomalies and monitoring pregnancies. Sound can also be described as a mechanical vibration that can create mechanical stress and will cause direct effect on cells (Lestard & Capella, 2016). This is because, sound acts as

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disturbance that will be transported through a medium via the mechanism of particle interaction (Sarvaiya & Kothari, 2015).

Dos Reis Lestard et al. (2013) reported that sound has been used to increase cell growth in plants. On the other hand, (Fauzan, 2014) acknowledged that there had been studies that denote the positive effects of sound on humans. Human cells have responded well to sound (Sadeghi, 2011) and sound can permeate and resonate through human auditory cells as well as other human somatic cells (Harris, 2011). The approach in using sound for healing might be able to enhance further the possibility of a non-invasive treatment to patients.

Cell cultures are widely used in tissue engineering (TE). TE is a specialised interdisciplinary field that has shown various potentials to overcome certain health problems related to tissues/organs injury (Ramirez-Vick, 2013). The major aim of TE is to form or reconstruct 3-D biomimicry tissues using combination of cells, biomaterial scaffolds and signalling cues that can be used for tissues/organs restoration (Srivastava, Chandel, Rai, Rastogi, & Srivastava, 2013). An important consideration to the success of tissue formation in cell culture is the quality of cells source. Numerous attempts have been made to enhance the quality of the cells in the cultures. These include manipulation of cells using genetic engineering technique and inclusion of exogenous growth factors in vitro. Evidences show that these techniques could harm the cells, affect their viability and disrupt their survival rate (Ab-Rahim, Selvaratnam, Raghavendran, & Kamarul, 2013). It is postulated that exposing the cell cultures to sound may help to overcome these disruptions and further enhance the proliferation rate. However, the use of sound as the method of treatment on cell cultures has yet to be fully explored.

In Islam, Qur'anic recitation has already been used as a method for treatment since the times of Prophet Muhammad (Pbuh). According to one *hadith* narrated by Aisyah (RA), "*during the Prophet Muhammad (Pbuh) serious illness, he used to recite the Mu'auwidhat (Surah an-Nas and Surah Al-Falaq) and then blow his breath over his body. When his pain became intense, I used to recite those two Suras and blow my breath over him and make him rub his body with his own hand for its blessings.*" (Sahih al-Bukhari, *hadith* no. 631) (Khan, 1997).

A review of published articles in Elsevier's SCOPUS (Scopus) related to the topic was conducted to examine the current literatures pertaining to the use of sound in managing illnesses. The review begins with a description of sound and its properties, effect of sound healing on cells, and culminating to healing

with Qur'anic recitation. The review presents scientific findings that relate the effects of Qur'anic recitation upon certain biological processes and functions. A major gap in the review is the lack of studies that can relate Qur'anic recitation and its healing properties on human cell at cellular level.

This paper proposes that it would be worthwhile to determine the effect of sound, in the form of Qur'anic recitation, in influencing the cell growth in cell culture. It is hopeful that the review will be able to shed some light of the effects of Qur'anic recitation on cell cultures. This is to facilitate for the future work involving the hypothesis that Qur'anic recitation is able to enhance growth progression in cell cultures used in TE. For the purpose of this paper, unless otherwise indicated, the translations of Qur'anic verses are based on the works Abdullah Yusuf Ali (2013).

2. Methodology

The online database of Elsevier's SCOPUS was accessed. Using appropriate search tabs for the database, publications related to the subject matter from 2010 till 2017 were identified. The searches were conducted between April to May, 2017.

Zainuddin and Halimatussa'diah (2013) quoted the work of Trevelyan, Cook and Fisher that estimated ninety-nine percent of the audience will limit their only search only to the title and abstract of an article. Thus, the search was carried out by using five (5) keywords; "sound healing on cell", "music therapy on cell", "Qur'an healing", "Qur'anic recitation", and "Islamic healing" appearing in the title or abstract of the publications.

For this review, the inclusive criteria for the selected papers are limited to publications related to human and animal cells. The papers included the scholarly journals as well as those from reputable organizations. The criteria also include the conference papers, article in press and review papers. This review excludes papers that were published in languages other than in English and papers with no abstract. Besides, this review eliminates papers that were not in the PDF format.

The identified publications were then categorized to enable them to be discussed accordingly in various sub-sections. The sections include all the keywords used during the search. The results provide an initial reference to initiate further research on the subject matter.

3. Results

Based on the keywords used, Scopus database showed 342 hits on the journal article publications (Table 1).

The abstract of the papers were analysed to relate the presented textual content to the title of this study. The identified publications were then categorized to enable them to be discussed accordingly in various sub-sections. The sub-sections were “Sound Healing / Therapy”, “Effect of Sound on Cells” and “Healing with Qur'anic Recitation”. Figure 1 below shows the number of publications retrieved while the column for ‘related papers’ refer to those publications that are relevant to the title of this study.

Table 1: Number of hits based on keywords search

Keywords Used	Scopus Database	Related Papers
Sound healing on cell	55	5
Music therapy on cell	134	56
<i>Qur'an</i> healing	24	13
<i>Qur'anic</i> recitation	47	24
Islamic healing	82	22
Total	342	120

4. Discussion

4.1 Sound Healing / Therapy

There are two synonymous terms to relate the use of sound as a therapeutic medium which are sound healing and sound therapy. According to Cambridge dictionaries ("Therapy," n.d.), the term therapy can be explained as a treatment that helps someone feel better. Meanwhile, healing can be defined as to make someone become well. For the purpose of this review, the term “healing” will be used instead of “therapy” although these two terms share a similar meaning. Therefore, sound healing is a term used to describe a wide and diverse range of approaches that utilize a diverse range of sound sources, with the intention of healing of human beings. It also can be defined as the application of sound vibrations directly into the body of an individual, to bring about a state of harmony and healing.

In recent years, sound healing has become a rapidly expanding field encompassing many diverse approaches. Sound healing is among the applicable approaches that can be used to treat a disease or to improve health. The use of the sound has been considered as a complementary and an alternative medicine for healing purposes ((Erkkilä et al., 2011). This practice is widely used in Western healthcare as an alternative towards allopathic medicine (Norris, 2011) and in the clinical settings in order to promote human health and wellbeing (Chanda & Levitin, 2013). In the ancient times, sound has been used as the method for communication among humans as well as a method for treatment (Gelfo, 2012). Sound is a common and natural activity among people thus the use of the sound in the healing process will greatly give impact to humankind (O'Callaghan, Barry, & Thompson, 2012).

The process of healing with sound is as old as the existence of the sound itself. Different cultures have various methods for sound healing. The various techniques used to produce sound include the singing bowls, tuning forks, gong, or harp (Gelfo, 2012). However, it is suggested that the most powerful sound is the human voice (Norris, 2011). Human beings are born with the ability to produce sound with their vocal cord and this makes the healing process using human voice a very convenient method. The diverse techniques that produce sound of different characteristics from a human voice can be applied for healing purposes (Gelfo, 2012). Besides the active human voice, there are some techniques that have already been applied in sound healing. These include the use of the recorded sound, live performance or a combination of musical instruments (Arnon, 2011). The wide variety of media used in sound healing are hereby acknowledged.

The effectiveness of the sound healing might be different depending on the type, frequency, range and the level of the sound used during the healing process (Erkkilä et al., 2011; Kamal et al., 2013). Low frequency sound was found to be able to reduce stress and anxiety level in patients with invasive medical procedures (Chanda & Levitin, 2013). The activity of the sympathetic system was found to be reduced when listening to slow music (Sadeghi, 2011). Thus, the type of sound to be used in sound healing process plays a very crucial part in determining the efficiency and effectiveness of the healing process.

In the field of psychoneuroimmunology, the relationship between sound healing with psychology, neurology, endocrine system and immune system has already been discovered (Gelfo, 2012). In a study done among cancer patients, it is reported that sound provide a calming and relaxing effect. To some patients, listening to the sound provides them with supportive messages that increase their motivation and

emotional support (O'Callaghan et al., 2012). It also offers comfort and peace during times of distress (Bradt et al., 2015). Sound has also been used for psychotherapy and personal growth as it can induce strong emotions such as joy, sadness, fear, and tranquility (Chanda & Levitin, 2013). Besides giving positive effect on emotion, sound has been shown to benefit interpersonal abilities (Tumiran et al., 2013). Human anxiety level has been shown to decrease after listening to sound as the sympathetic nervous system will be suppressed (Bradt et al., 2015). A clinical research conducted by Galińska (2015) suggested that sound was able to stimulate the processes in the brain resulting in measurable therapeutics effects. The said author presented that sound can affect human behaviour, psychoanalytic and humanistic characteristics, as well as helps in the expression of emotion and social integration. This raises the possibility of the effects of sound on man's psychoneuroimmunology which can be an alternative approach in managing non-biological illnesses.

Sound has been used in management of pain, depression, psychology, brain injury, and stroke recovery (Tumiran et al., 2013). A profound work is by Fauzan (2014) highlighted that listening to sound can be therapeutic. Studies showed that listening to music can stimulate human brain to release endogenous opioid peptides. The study suggests that sound can cast its effects on the human neuronal and neurochemical systems (Chanda & Levitin, 2013). These chemical influences are seen within the therapeutic effects such as reducing stress and modulating the arousal levels. The authors further reiterated that when patients listened to music after a painful procedure, their level of pain were reduced as the sound acts as an analgesic agent or pain killer. This is supported by Archie, Bruera, and Cohen (2013) stating that some interventions related to sound have been reported to have a mild to moderate analgesic and anxiolytic effects. There are some therapists practicing the sound healing method to generate biochemical such as endorphins which can be used as a natural painkiller (Fauzan, 2014). It is also suggested that sound can be used to reduce stress and pain during chemotherapy or radiation therapy among patients (Bradt et al., 2015). According to the authors, listening to pre-recorded music provides benefits in term of health as it enhances the symptom management. Sound can as well be used to decrease subjective pain and analgesic requirements in acute pain settings, reduce anxiety, has a positive impact on mood and competes with noxious stimuli to promote a sense of well-being (Archie et al., 2013).

Healing with sound has also been used in neonatal intensive-care unit (NICU) to assist the growth and

development of premature infants (Arnon, 2011). Sound can alter the human hormonal response in relation to the human health (Dos Reis Lestard et al., 2013). Some psychologists used sound for therapeutic reasons in order to promote focus, increase confidence, reduce anxiety and enhance memories (Gelfo, 2012). There are studies that suggest music can act as anti-inflammatory medium because the production of cell activity and mucosal immunity will be increased (Chanda & Levitin, 2013). Listening to sound eventually can activate large networks of the human brain (Galińska, 2015). When the human brain has been stimulated with sound, different parts of the brain will react to different component of sound. This is translated into non-musical functions that can be therapeutic in some ways. The use of sound healing in neuroscience in terms of clinical practice and research is now being recognised (Galińska, 2015).

4.2 Effect of Sound on Cells

Sound can travel very well through the human body as the human body consists of 70% of water, a good conductor for sound. The velocity of the sound in the water is 1500 m/sec which is 4-5 times higher as compared to the velocity of the sound in the air which is 340 m/sec (Dos Reis Lestard et al., 2013). It is a fact that all life depends mostly on water, which is the largest component of human cells and body fluids (Akhlaqi, 2014). The *Holy Qur'an* has mentioned about the creation of human from water, "And it is He who has created from water a human being and made him (a relative by) lineage and marriage" (*The Qur'an* 25:54) and "And made from water every living thing" (*The Qur'an* 21:30).

The interaction between sound and cell has become a very interesting topic to be explored (Sarvaiya & Kothari, 2015). Human responses towards the sound are a very complex process (Dos Reis Lestard et al., 2013). Several studies suggested that the response towards sound might not limited only to emotion but can as well affect even the smallest structure of living mechanism such as cell (Lestard & Capella, 2016). Based on the study conducted by Norris (2011), sound will vibrate and resonate across the human cells at a certain frequency. The author explained that, the sound will resonate across both the human auditory and somatic system. In 2013, a study by Saged (2013), states that human cells will eventually be affected by the sound surrounds it. This is further supported by (Dos Reis Lestard et al., 2013) in their research mentioning that not only the human auditory cell will react towards sound but other cells will also respond to it. Another study suggests that effect of sound was similar for auditory and nonauditory cells (Lestard & Capella, 2016).

There are still a lot of areas that can be explored when it comes to the interaction between the sound and biological cells. For example, how sound can be utilized as a physical signal for intercellular communication and how cells sense and respond to sound that contain different frequency, amplitude and intensity have yet to be fully understood (Sarvaiya & Kothari, 2015). It is suggested that the difference in sound frequencies can provide different reaction from the patient's condition (Saged, 2013). The finding suggests that the cellular response to sound is dependent to the nature of the sound and also the intrinsic characteristics of the cellular type (Lestard & Capella, 2016). Thus, it is possible that the use of appropriate sound will assist in human healing process.

Through resonance or vibration, sound frequencies can influence the heart rate and brain which can improve health (Norris, 2011). In addition, different sound frequencies have been found to induce different metabolic and physiological responses in yeast cells (Aggio, Obolonkin, & Villas-Bôas, 2012). High frequency sounds cause the cell to agitate while the low frequency sounds can promote relaxation (Norris, 2011). This is supported by Gelfo (2012) who reported that humans feel calm with the sound of birdsong or ocean which is the sounds of nature with low frequencies. Meanwhile, Aggio et al. (2012) adds that sound can increase the growth rate of cells and biomass accumulation. The study also reported that the number of cell death in cancer cells was increased. In another report, the audible sound is able to alter the proliferation and protein activity of the cells (Dos Reis Lestard et al., 2013). The authors also suggested that sound healing was able to alter the cell cycle, morphology and functional parameter in non-auditory human cells. Sarvaiya and Kothari (2015) mentioned in their study that the growths of all the test organisms were significantly affected by sound. This particular study shows a promising avenue to study the anticipated influence of sound upon human cell cultures.

4.3 Healing with Qur'anic recitation

Muslims accept the *Holy Qur'an* as one of the two *Islamic* revealed sources. The *Holy Qur'an* by its translation and meaning has explanations that relate to the human needs (Arshad et al., 2013). The *Qur'an* (39:23) mentions that, "*Allah has revealed the best of revelations, a book consistent with itself, repeating its teachings in various aspects. The skins of those who fear their Lord shiver at it, then their skins and hearts soften to the celebration of praising Allah*". This Book of guidance and remedy pays a lot of attention to mankind's health and diseases as well as guiding

humans towards better life (Saged, 2013). It also guides humans towards perfection in maintaining health. The *Holy Qur'an* mentions several guidelines that are related to human health to both body and mind (Akhlaqi, 2014). There is a verse in *Qur'an* mentions "*For We have certainly brought them a Book which provides clear details based on knowledge and which is a guidance and blessing for the true believers*" (*The Qur'an* 7: 52). Another *Qur'anic* verse that are relevant to health promotion is related to diet, nutrition, personal hygiene, alcohol abstention, and healthy lifestyle. The verses are "*O mankind: Eat of what is lawful and good on earth*" (*The Qur'an* 2:168), "*And from the fruits of date palm and grapes you get wholesome drink and nutrition: Behold in this is a sign for those who are wise*" (*The Qur'an* 16:67), and "*Forbidden to you (for food) are: dead animals, blood, the flesh of swine, and the meat of that which has been slaughtered as a sacrifice for other than God...*" (*The Qur'an* 5:3). Those evidences being revealed in the *Holy Qur'an* should be appreciated by Muslims in terms of the guidance and preventive measures against possible medical ailments.

The word healing has been mentioned several times in the *Holy Qur'an*. Abdullah Yusuf Ali used the word *healing* in various verses; "*Mankind there has come to you a guidance from your Lord and a healing for (the diseases) in your hearts, and for those who believe a guidance and a mercy*" (*The Qur'an* 10:57), "*And we sent down in the Qur'an such things that have healing and mercy for the believers*" (*The Qur'an* 17:82) and "*...Say: It is a Guide and a healing to those who believe; and for those who believe not, there is a deafness in their ears, and it is blindness in their (eyes): They are (as it were) being called from a place far distant!*" (*The Qur'an* 41:44). The word healing is also used by Pickthall (2008) to translate those verses. On the other hand, Ibn Kathīr (2000) used the word cure instead of healing. For example, the translation by Ibn Kathir, "*O mankind! There has come to you good advice from your Lord, and a cure for that which is in your breasts,*" (*The Qur'an* 10:57), "*And We send down of the Qur'an that which is a cure and a mercy to the believers....*" (*The Qur'an* 17:82) and "*...Say: It is for those who believe, a guide and a cure. And as for those who disbelieve.....*" (*The Qur'an* 41:44). According to the translation and commentary by Abdullah Yusuf Ali (2009), the word healing in these verses are referring to the spiritual healing. Ibn Kathir explained that the word cure in this verses refer to the cure from suspicion, doubts, hypocrisy, *Shirk*, confusion, and inclination towards falsehood that exists in people's hearts. While the translations of these Muslim scholars are highly appreciated, the present authors are of the opinion that

Qur'anic recitation could be explored as a possible alternative to address diseases of man.

A notable *hadith* that supported the use of *Qur'anic* recitation for treatment is narrated by Abu Saeed al-Khudr'I. He narrated that some of the companions of the Prophet (Pbuh) went on a journey till they reached one of the Arab tribes at night. They asked to be treated as guests but the tribe refused. The chief of that tribe was bitten by a poisonous animal (snake or scorpion) and nothing had benefited him. Some members of the tribe went to the group of the companions to seek help. One of the companions agreed to recite *Ruqya* in return for a flock of sheep. The companion recited *Surah Al-Fatihah* to treat the Chief. All the praises and thanks to Allah, the chief recovered as if he was released from a chain, and started to walk and showed no signs of sickness. The chief paid the companions what was agreed. Some of the companions suggested that the earnings to be divided among themselves, but eventually they agreed to consult Prophet Muhammad (Pbuh). Upon reaching Madinah, they narrated the story to the Prophet Muhammad (Pbuh) whereupon he remarked, "How did he come to know that *Surah Al-Fatihah* can be used as a cure (*Ruqya*)? You have done the right thing. Distribute your reward amongst yourselves and assign a share for me as well" Sahih al-Bukhari No: 2276 (Khan, 1997).

The *Holy Qur'an* explains the purpose of human's life and their obligation towards God through its chapters and verses (Babamohamadi, Sotodehasl, Koenig, Jahani, & Ghorbani, 2015). A Muslim has faith and strong belief in the words of Allah as evident in the *Holy Qur'an*. Allah tells mankind "And if Allah touches you with harm, none can remove it but He, and if He touches you with good, then He is Able to do all things" (*The Qur'an* 6:17) and "And when I am ill, it is (God) who cures me" (*The Qur'an* 26:80). Muslims believe that in every disease or illness, Allah has made the cure (Ateeq, Jehan, & Mehmmod, 2014). Thus, treatments for diseases need to be explored and these could include the possibility of using *Qur'anic* recitation.

The use of *Qur'anic* recitation as the method for sound healing seems to be promising. In the *Holy Qur'an*, sound has been mentioned several times. The *Holy Qur'an* has already emphasized the powerful use of the sound in the destruction of the earth. Allah mentions that the earth's destruction will be preceded through a massive sound, "And when the trumpet shall sound one blast; And the earth with the mountains shall be lifted up and crushed with one crash" (*The Qur'an* 69:13-14). This is further supported by the verse in *Surah Al-Muddaththir*, Allah say "For when the trumpet shall sound; surely that day will be a day

of anguish; Not of ease, for disbelievers", (*The Qur'an* 74:8-10). From these verses, the *Qur'anic* recitation within the context of sound healing can be further explored as it might be possibly to be one of the medium to treat human illness. It can be postulated that the use of sound can be a very powerful mechanism to heal or cure human's illness.

The *Qur'anic* recitation is a special practice that is valued by Muslim communities across the world (Akhlaji, 2014). Allah mentions in the *Qur'an* 7:204, "So when the *Qur'an* is recited, then listen to it and pay attention that you may receive mercy". The *Qur'an* also mentions "But those who believe and work deeds of righteousness, and believe in the (revelation) sent down to Muhammad- for it is the Truth from their Lord – He will remove from them their ills and improve their conditions." (*The Qur'an* 47:2). It is believed that the *Qur'anic* recitation is a natural sound produced by human voice which has unique qualities that can have effects on human body (Zulkurnaini, Kadir, Murat, & Isa, 2012). This is supported by a study that recognized the recitation of the *Qur'an* as a complementary therapy and has been used in chronic disease therapy (Babamohamadi et al., 2015).

The *Qur'anic* recitation might have direct healing effect since it can help to release stress and gain spiritual relaxation (Zulkurnaini et al., 2012). Based on the study, the authors suggested that listening to *Qur'anic* recitation has better impact on brainwave balancing compared to classical music. The study was conducted using EEG signals acquisition in order to obtain a correlation between the left and the right brainwaves during listening to *Qur'anic* recitation and classical music. They found that the percentage of alpha brainwave increased to a higher value when listening to *Qur'anic* recitation (12.67%) compared to classical music (9.96%). A study by Tumiran et al. (2013) suggested that *Qur'anic* recitation is an alternative sound healing method that provides better results when compared to conventional sound healing. The study showed that human brain produces higher alpha waves when listening to the *Holy Qur'an* and able to stabilize patients in term of their psychologically behavior. It is also suggested that, not only the brain will have a positive influence towards the *Qur'anic* recitation but the entire body will also response in positive way (Saged, 2013). Akhlaji (2014) suggested that the *Qur'anic* recitation has an impact on reducing the physical pain after a surgery has being performed. Another study suggested that listening or reciting the *Qur'anic* verses can have a unique effect on human body (Gunawan & Kartiwi, 2016).

The fundamental principle of healing with *Qur'anic* recitation is the vibrations that come from the reciters voice (Saged, 2013). These vibrations resulted from the air pressure disturbance coming from the voice. The *Qur'anic* recitation also has a powerful expression, fluent style and captivating sound that affect the audience and has an inner tendency towards harmony and rhythm (Kamal et al., 2013). To the authors, the sound produced during the recitation can affect those who listened to it. Babamohamadi et al. (2015) highlighted that reciting the *Holy Qur'an* aloud is better compared to reciting it silently as Prophet Muhammad (Pbuh) mentioned that the sound produced during the recital will eventually influence the listener's feeling. The authors also recognised that reciting the *Holy Qur'an* to a sick person will have a direct healing effect to the person as well as to the people who listen to the sound.

The study conducted by Tumiran et al. (2013) revealed some important points regarding the healing with *Qur'anic* recitation. First, the sound of the *Qur'anic* recitation is believed to provide a deep spiritual energy to the reciter and to the listener. Second, the healing process using the *Qur'anic* recitation will affect the listeners although they do not understand the meaning of the verses. On top of that, reciting and listening to the *Holy Qur'an* with understanding adds more value to a Muslim. However, according to the authors, there is still lack in research done involving recitation of the *Holy Qur'an* although it can act as sound healing. Gunawan and Kartiwi (2016) are of the opinion that *Qur'anic* recitation has its own characteristics that differ from other sound. Their opinion is based on a finding that *Qur'anic* recitation was dominated by voiced sound (81.93%) compared to unvoiced sound (18.07%), with different fundamental frequencies when compared to English audiobook.

Arshad et al. (2013) highlighted several important considerations in order to recite the *Holy Qur'an* correctly. First, the reciters must know the proper "*makhraj*" and "*tajwid*". According to the authors, "*makhraj* can be defined as the correct position of the organs of speech in order to produce a sound from a letter so that it can be differentiated from others". They further explained that the "*tajwid* is the correctness of diction or proper pronunciation and technique during recitation". Second, it is important to recite the *Holy Qur'an* according to the law of *makhraj* and *tajwid* because even a small difference of the sound in the Arabic words may cause the meaning to be different. It is also mentioned in the *Qur'an* "...And recite the *Qur'an* with measured recitation." (*The Qur'an* 73:4). Third, although the *Qur'anic* recitation will probably differ from one person to

another due to the difference in each person's voice, the meaning will still be the same as long as the laws of *tajwid* and *makhraj* are obeyed. This is supported by one *hadith* of Ibn Abbas who narrated that the Prophet Muhammad (Pbuh) said: "*Jibrail taught me one style and I reviewed it until he taught me more, and I kept asking him for more and he gave me more until finally there were seven styles.*" Sahih al-Bukhari, 3219 (Khan, 1997). The seven styles are (1) Nafi' from Medina (d. 785) as transmitted through Warsh and/or Qalun, (2) Ibn Kathir (d. 737) from Mecca as transmitted through al-Bazz and/or Qunbul, (3) Ibn Amir (d. 736) from Damascus as transmitted through Hisham and/or Ibn Dhakwan, (4) Abu Amir (d. 770) from Basra as transmitted through al-Durri and/or al-Susi, (5) Asim (d. 744) from Kufa as transmitted through safs and/or Abu Bakr, (6) Hamza (d. 772) from Kufa as transmitted through Khalaf and/or Khallad, and (7) Al-Kisai (d. 189) from Kufa as transmitted through al-Durri and/or Abu al-Harith. These differences in *Qur'anic* recitation are allowed as long as the meaning of the revelation is correct (Saad, 2014). Hence, although the recitation of the *Holy Qur'an* might be slightly different between reciters due to the differences during the learning processes, it is permissible in Islam as long as the principle of the recitation, namely the *makhraj* and *tajwid* are followed as the style might differ but the meaning is still the same.

The recitations of the *Holy Qur'an* have been known to consist of various melodies or *tarannum* (Tumiran et al., 2013). According to the authors, those melodious sounds show similarities with the sound healing in term of the therapeutic effect. Possibly, the melodious sound produced during the *Qur'anic* recitation acts as sound healing. A study done by Akdemir (2010) highlighted two main concerns with respect to *Qur'anic* recitation. The first concern is during *Qur'anic* recitation the same words might be pronounced differently. Second, the difference in recitation could also be contributed by the distribution of the narrations geographically.

Akdemir (2010) presented some important highlights pertaining to the recitation of the *Holy Qur'an*. First, during the time of Prophet Muhammad (Pbuh), the recitation of the *Holy Qur'an* was taught orally. Second, this difference in recitation already started during the learning process itself as the companions will listen to the Prophet Muhammad (Pbuh) and the companions learned different ways to recite it. Some of the companions will learn the recitation of the *Holy Qur'an* only by memorizing. Third, the recent practice of the *Qur'anic* recitation is based on the ancestral teaching style. Nowadays, the *Qur'anic* text has been provided with points and other

marks to make the recitation become easier. Fourth, even though there is a difference between the learning processes, the teaching style is still the same which is by orally.

While the present authors acknowledge the literatures above that associate the recitation of the *Holy Qur'an* to sound therapy, this association should not be literally adopted. The authors wish to reiterate that the *Holy Qur'an* is the Word of Allah. It is cautiously advised that it may not be permissible, from the religious point of view, to associate the utterance of the words of the Al-Mighty in terms of sound and sound healing. There may be areas yet to be unearthed that lie within those words which the Al-Mighty does not explain to human beings. This is inline with the examples of certain introductory Arabic alphabets to begin certain chapters of the *Holy Qur'an* that Muslims scholar to this day could not comprehend. Furthermore, if it is merely "sound" as being interpreted as "something that one can hear" or "a medium that resulted from vibrations" then the element of healing that lies within the concept of *Qur'anic* recitation could be nullified. The authors remain steadfast to the *hadith* mentioned above that Prophet Muhammad (Pbuh) approved the use of the *Al-Fatihah* as a cure (Ruqya). This is used to justify the possibility of *Qur'anic* recitation to be used as a medium for healing involving the recitation that essentially is sound. Taking that notion further, the present authors wish to present the need to associate sound in a recitation to other "inner elements" that are expected within the recitation. "*Makhrāj*", "*Tajwid*", "*Tarannum*", the seven styles of recitation could make one to look at *Qur'anic* recitation beyond the voice (and thus the sound) that recited the verse. The authors speculate that the deepest feelings of spirituality, connectedness to the Al-Mighty, during a recitation could cast an influence on its healing properties of the *Holy Qur'an*, for only Allah knows. With that the present authors align their thoughts to the use of the term *Qur'anic recitation healing* to be a better nomenclature.

5. Future Work

Based on the review above, it is felt that there exists justification to examine the use of *Qur'anic* recitation as a treatment medium through sound healing on human cell cultures in Tissue Engineering. Experiments should be conducted to identify the potential effects of *Qur'anic* recitation on the human cell in vitro. Particular experimental considerations include the *Qur'anic* verses to be used, the reciter as well as the experimental set-up in exposing the cell cultures to the recitation. These efforts could enhance the understanding of the effects of *Qur'anic* recitation

on cultured cells. Special emphasize should be given to those works on animal or human cell cultures. The effects of exposing the cell cultures to the *Qur'anic* recitations should be supported by laboratory analyses.

6. Conclusion

It can be concluded that this review suggests that *Qur'anic* recitation can be a healing medium within the context of sound healing technique. The positive effects of sound on biological and physiological processes that were depicted in various researches could be further studied. It would be worthwhile to study the possible effects of *Qur'anic* recitation on cell cultures. However, it is to be reminded that such studies should take into consideration the methodological approach as to depict the *Qur'anic* recitation being not merely sound. Rather, the "inherent" characteristics of the *Qur'anic* recitation that differ from ordinary spoken words and sound should be the foundation of those studies. Finally, it is felt that the use of the term *Qur'anic* recitation healing would be a better nomenclature.

Acknowledgment

The authors thank Kulliyyah of Allied Health Sciences, International Islamic University Malaysia, Kuantan Campus and the Ministry of Science, Technology and Innovation (MOSTI) Malaysia (06-01-08-SF0238/SF14-012-0062).

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Article History

Received: 1-06-2017

Accepted: 20-06-2017